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AUTHOR	Smoller, Merry Sue, Comp.
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ABSTRACT

A glossary of terms used in cable television and other broadband communications is given. Definitions vary in length from a few lines to long paragraphs for more complex terms. There are over 150 entries, many of which are chosen since they are unfamiliar to persons outside the field of telecommunications. (WH)

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A GLOSSARY OF TERMS

FOR CABLE TELEVISION

AND OTHER BROADBAND COMMUNICATIONS

Compiled by Merry Sue Smoller

Revised August, 1972

The first edition of this Glossary under the title A Cable Television Glossary was prepared for the University of Wisconsin Extension Institute on Libraries and Cable Television, March 21-23, 1972, Madison, Wisconsin.

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This glossary is not intended to be an exhaustive vocabulary of cable television and broadband communications terms. The terms and definitions here presented must necessarily be incomplete because of the rapidly growing and changing vocabulary used by those engaged in the field. An effort has been made, nevertheless to include and define those terms in general use that might be unfamiliar to persons outside the field of telecommunications.

The definitions have been derived from a wide variety of sources. Among the most helpful were:

Cable Television In The Cities, Charles Tate, ed. (1971).

1971 CATV Systems Directory.

Pilot Projects for the Broadband Communications Distribution System, Malarkey, Taylor & Associated (November 1971).

Broadcasting in America, Sidney Head (1956).

Various working papers of the Office of Telecommunications Policy.

Third Report and Order of the Federal Communications Commission (February 1972).

The Real World of Technological Evolution in Broadband Communications, Hubert J. Schafly (September 1970).

Various publications of the Rand Corporation.

On The Cable, Report of the Sloan Commission on Cable Communications (1971).

Special thanks are due to Charles Sherman, Chairman, Department of Communications Arts, University of Wisconsin, to Donald Le Duc, Department of Speech, Radio, TV, and Film Division, Ohio State University, and to Gene Zastrow, Chief Engineer, WHA-TV, Madison, Wisconsin.

The compiler will welcome suggestions of additional terms to be included in some future edition of the glossary, new or more accurate definitions and assistance from any source. Correspondence may be addressed as follows:

Merry Sue Smoller, Librarian
School of Journalism and Mass Communications
University of Wisconsin
Vilas Communication Hall
Madison, Wisconsin 53706

access
The ability or right to use cable systems, usually to originate programming.

access cablecasting
Services provided by a cable television system on its public, educational, local government, or leased channels.

access channels
Government, education, public or leased channels carried on a cable television system. Also known as non-broadcast channels. See also government and educational channels, public access channel, and leased channels.

additional signals
According to FCC regulations, signals that some systems may carry in addition to those required or permitted as minimum service or mandatory carriage. See carriage rule.

aerial plant
Cable that is suspended in the air on poles that are often leased from the local telephone or power company.

alternate video
See guerilla television.

amplifier
a device, consisting of electrical components used to increase the power, voltage or current of a signal, inserted in the cable at least every 3,000 feet to compensate for signal losses on the cable network.

attenuation
The decrease of signal strength as it progresses from source to receiver. It is a function of the transmission medium, distance, and frequencies being transmitted.

augmented channel system
A way of gaining more VHF channel capacity on a conventional single cable system through the installation of subscriber set-top convertors.

bi-directional system
See two-way capability.

blue sky
The potential of cable television rather than the present actuality: predictions of future uses and applications of cable television focusing on the medium as service rather than entertainment oriented. Often the term carries a perjorative connotation.

branch
A smaller section of cable leading from the trunk past subscriber's homes.

broadband
Frequency bandwidths above one megahertz. Broadband communications systems are communications systems that carry a wide frequency range such as broadcast television, cable television, microwave and satellite services. Also known as wideband. See also narrowband.

broadband communications network (BCN)
A concept requiring a bi-directional, switched, technologically improved, highly reliable, minimum 300 megahertz bandwidth cable system utilizing sophisticated home terminals (with auxiliary equipment such as hard copy printers, alphanumeric keyboards, frame grabbers) capable of interacting with the systems central computer. Separate distribution systems could be inter-connected by microwave or satellite relaying. In addition to entertainment television, a BCN could provide such services as video telephone, computer data exchange, electronic mail, two-way education, meter reading, shopping by TV, two-way burglar alarms, on-demand special information, electronic newspapers and magazines, library services, polling, etc. See also wired city.

broadcasting-satellite service
A method using a satellite to transmit or relay signals (e.g. broadcasting programs) directly to the general public, either to receivers in individual homes (broadcast satellites) or to community receivers intended for use by a group of the general public at one location (distribution satellites). Also known as the direct reception mode of reception. See also satellite communication.

cablecasting
Television programs originated by a cable television system, and distributed over the cable system, rather than through the air as in broadcasting.

Cable Television Information Center (CTIC)
A non-profit service of the Urban Institute, Washington, D. C., Funded primarily by the Ford Foundation, it was established in January 1972. Its principal aim is "to provide policy makers in local and state governments with the information and analytical tools required to make franchising decisions for cable television." Executive Director: W. Bowman Cutter, 2100 M Street, N.W., Washington, D. C. 20037.

cable television system (CATV system)
Any facility that, in whole or in part, receives directly, or indirectly over the air, and amplifies or otherwise modifies the signals transmitting programs broadcast by one or more television or radio stations and distributes such signals by

wire or cable to subscribing members of the public who pay for such service, but such a term shall not include (1) any such facility that serves fewer than 50 subscribers, or (2) any such facility that serves only the residents of one or more apartment dwellings under common ownership, control, or management, and commercial establishments located on the premises of such an apartment house. In general, each separate and distinct community or municipal entity (including single, discrete, unincorporated areas) served by cable television facilities constitutes a separate cable television system, even if there is a single head end and identical ownership of facilities extending into several communities.

carriage

The carrying on the cable television system of a program being broadcast by a television broadcast station.

carriage rules

FCC rules stipulating what signals a cable system must and may carry. The FCC requires a cable system in a given community to carry as minimum service, on request of the appropriate station, the signals of all television stations (including translator, educational, and significantly viewed stations) licensed to communities within 35 miles of the cable system's community. Systems located in the top 50 markets must also carry Grade B signals of educational television stations. Systems in smaller television markets must also carry the Grade B signals of both educational television stations and stations in other smaller markets. Systems located outside definable markets must also carry all Grade B signals. As additional signals, FCC rules permit cable systems in the top 50 markets to carry signals of at least 3 network and 3 independent stations; those in markets 51-100, the signals of at least 3 network and 2 independent stations. All of the systems in those markets, in addition, are entitled to carry 2 distant signals, regardless of whether they are needed to provide the specified minimum. Systems in markets below the top 100 are limited to the carriage of 3 network signals and 1 independent. Those outside any definable market are not limited in the number of signals they can carry. Cable systems are required to carry all local educational stations. If there are no local educational stations, they may import the signal of the closest one. As many foreign language stations may be carried as desired.

Carter Mountain Case

Carter Mountain Transmission Corporation vs. FCC (1963). Landmark in the history of CATV since it is the first time the FCC actively asserts its jurisdiction over CATV, by regulating systems utilizing microwave. The U. S. Court of Appeals for the District of Columbia upheld the FCC's contention it could withhold permission for use of a microwave relay system serving CATV systems where such use could be proven competitively harmful to TV stations to the extent of perhaps driving the station out of business. Prior to this time the FCC held a hands-off policy in regard to CATV operations allowing development of the industry without restriction.

cascade

The operation of devices (usually amplifiers) in sequence in a cable system with the output of one device feeding the input of the next.

cashless society
: A concept based on the widespread use of electronic banking, a proposed BCN service by which a subscriber pays a bill from his home terminal with instant transfer of funds to the seller's bank account.

central distribution center
: A building centrally located within a community in which the cable system facilities for local programming production are contained. It is connected to the head end by a main feeder cable which brings distant signals to the central distribution center. Here both distant and local signals are processed and sent out over the main trunk cable.

certificate of compliance
: Document giving approval for a cable system to carry broadcast signals after meeting all of the FCC requirements. All new systems must have a certificate of compliance in order to begin operations. Existing systems must obtain one from the FCC before adding new signal carriage and at the end of the current franchise period or March 31, 1977, whichever comes first.

channel
: The segment of the radio frequency spectrum to which a television station is assigned or to which a television camera is tuned when transmitting via radio frequencies. Each television channel requires a bandwidth of 6 megahertz.

channel reuse
: Trunk line routing planned so that there is a common point of trunk/sub-trunk feed for each neighborhood. A program on a single channel is erased, or totally deleted, when the trunk crosses the boundary into a new neighborhood, leaving the channel free to be reused. A new program of truly local origination could be inserted at that point to serve that neighborhood, and at the next boundary the process would be repeated.

Class I cable television channel
: A signalling path provided by a cable television system to relay to subscriber terminals television broadcast programs that are received off-the-air or are obtained by microwave or by direct connection to a television broadcast station.

Class II cable television channel
: A signalling path that is used for carriage of signals that have not been broadcast (i.e. local origination) and are intended to be picked up by a subscriber without use of an auxiliary decoding device.

Class III cable television channel
: A signalling path used for carriage of signals that are intended to be received by equipment other than a television receiver or by a television set only after decoding and converting.

Class IV cable television channel
: A signalling path provided by a cable television system to transmit signals of any type from a subscriber terminal to any other point in a cable system.

closed-circuit

Any transmission method by which reception is not available to the general public. The receiving equipment (often special appartus not generally available) is directly linked to the originating equipment by cable, microwave relay, or telephone lines. Closed-circuit television (CCTV) is designed to be beamed within a given area that is usually much smaller than a network or local station's territory. Extensively used for monitoring in hospitals, police stations, prisons, etc.

coaxial cable

The special kind of wire usually used in cable television systems. It is called coaxial because it consists of two conductors, one inside the other and having a common axis. Surrounding the inner copper, or copper-sheathed aluminum, wire is a plastic foam insulating layer which is encased by a jacket of seamless aluminum or braided copper wire covered by a durable plastic sheathing. An electromagnetic field is set up between the center wire and its surrounding wire which retains signals within it, thus permitting the cable to carry more signals with less leakage.

common carrier

(1) Common carriers are those that hold themselves out or undertake to carry persons or goods of all persons indifferently, or of all who choose to employ them.

(2) Common carriers are communications services that are available to the general public for transmittal of private messages, i.e. television microwave relays, telephone, telegraph. The Communications Act of 1934 singles out broadcasting for exclusion from the category common carrier. Common carrier concept applies to business enterprises of such a character that public policy requires their services to be made available to all on a basis of equality. A carrier is supposed to concern itself not with the nature of the traffic it carries but merely with supplying the facilities for carrying it. Carriers occupy a position of limited monopoly and are licensed either by a state or federal agency, depending on whether or not the service is intrastate or interstate in scope. The license carries some protection from competition in return for which the business of the licensee is closely supervised by the licensing agency that can consider rates and services provided and determine reasonable profits.

communications-satellite service

A method using a satellite to relay signals (e.g. broadcasting programs) to earth stations for direct or indirect distribution by terrestrial transmitting stations. Such relays employing satellites are particularly suited to inter-connecting cable systems through intercity links extending across the continent or overseas. Also known as the retransmission method of reception, or, as relay satellites. See also satellite communications.

Community antenna relay service (CARS)

A means of obtaining distant reception through microwave relay links. A broadcast receiving antenna location is established within the good signal reception area of a station. This signal is demodulated and the video and sound are multiplexes on a frequency modulated

microwave carrier, then relayed to a distant community. Microwave links can be repeated if necessary (usually every 30-35 miles depending on the terrain and distance. The final receiver, at a cable head end, must demodulate the video and sound and then modulate these program signals into the form suitable for a conventional home receiver.

community antenna television system (CATV)
A system which receives programs broadcast by licensed TV stations and distributes them by wire to individual customers at a flat rate. During the early stage of cable television systems (1950's), the characteristic practice was to set up one bog antenna that a whole community would use. Although the term is often used interchangeably with cable television system, CATV implies the earlier, less sophisticated type of system, usually limited to a 12 channel capacity.

contour
The distance of a broadcast stations service area, an irregular shape surrounding the transmitter which is determined by signal-strength measurements in the field. Grade A contour: The calculated line surrounding an area in which a good picture is normally available at least 90% of the time at the best 70% of receiver locations. The Grade A contour extends about 38 miles for UHF stations with average power and 36 to 44 miles for VHF stations at maximum power, assuming no interference.
Grade B contour: the calculated line surrounding an area in which a good picture is normally available at least 90% of the time at at the best 50% of receiver locations. The Grade B contour extends about 50 miles for UHF stations with average power, and 70 to 80 miles for VHF stations at maximum power, assuming no interference.
Principal Community contour: the area within which the signal has the strength required by FCC rules to be afforded the principal community to which the station is assigned. The principal community contour extends about 31 miles for UHF stations with average power, and 28 to 36 miles for VHF stations at maximum power, assuming no interference.

convertor
A device for changing the frequency of a signal. Head end convertors change signals from frequencies at which they are broadcast to clear channels or from UHF to VHF, since cable cannot carry UHF.
Set-top convertors change signals from the frequencies at which they are sent over the cable (sometimes above VHF) to channels that the television set can pick up, or to a clear channel. The set-top convertor (also known as a subscriber convertor) extends the capacity of the home television receiver beyond 12 channels.

dedicated channel
A channel (in use or available on demand) solely devoted to a particular type of purpose or service, i.e. education, police, meter reading, library.

dedicated drop system
See hub-network switched system and switched system.

designated channels
Government, educational, and public access channels carried on a cable television system. The FCC ruled, in its June 1972 Reconsideration of the Third Report and Order, that no additional designated channels (beyond the original one educational, one government, one public access) can be carried or reserved on a cable system without FCC approval based on petition and demonstration of need. See also government and education channels and public access channel.

discade system
See hub-network switched system and switched system.

discrete address
See point-to-point service.

distant signal
The signal of a television broadcast station beyond the Grade B contour of that station. Generally, signals originating at a point too distant to be picked up by ordinary television reception equipment.

distribution system
A collective term for the part of a cable system used to carry signals from the head end, or the receiving point of the cable system, to the subscriber's receivers.

downstream
The direction in a cable system from the head end to the terminals. See also upstream.

drop
A small branch of cable which connects the antenna terminals on the back of the subscriber's television receiver to the feeder cable in the street.

dual cable system
See multiple cable system.

duplex
A cable system with two-way capability.

exclusivity
The contractual right to be the sole exhibitor of a program in a particular area during a particular period of time. FCC rules prohibit cable systems in the top 50 markets from carrying any syndicated programming for one year after its first appearance in any market and then for the life of the contract under which it is sold to a local station. In markets 51-100, different kinds of nonnetwork material is protected for varying periods of time up to two years.

facsimile
Printed material converted into electronic signals carried via the cable to the subscriber's terminal where they are reconverted into printed material.

Federal Communications Commission (FCC)

The FCC is composed of six commissioners and a chairman. They are appointed by the President and serve for seven year terms. They and their staff are responsible for the licensing and regulation of broadcast channels in the U.S. They are committed to the concept of locally-based stations, serving the interests of individual communities--and being responsive to the needs of these communities. Created by the Communications Act of 1934, the FCC has two definite jurisdictions: (1) Under Title 2 of the Act, in regard to common carriers such as microwave systems, telephone, and telegraph companies, the FCC can regulate rates and services. (2) Under Title 3 of the Act, in regard to broadcaster, the FCC has no responsibility to set rates or determine services in regard to rates. The FCC simply has the power to administer them as a public resource. Chairman: Dean Burch, 1919 M. Street, N. W., Washington, D. C.

FCC First Report and Order (1965)

The FCC set forth general rules for microwave-served cable systems, including the carriage and non-duplication rules.

FCC Second Report and Order (March 1966)

The FCC asserted jurisdiction over all CATV systems and placed severe restrictions on the carriage of distant signals into the top 100 markets.

FCC Notice of Inquiry and Proposed Rule Making (December 1968)

Imposed a freeze upon major market penetration by CATV systems so that facts could be gathered about how to control penetration. The effect was to stifle further penetration into the top market areas where 90% of the U.S. population was located.

FCC Third Report and Order (February 1972)

FCC rules to regulate and promote the growth of cable television into the major metropolitan areas. Detailed regulations on distant signals, access channels, technical standards, regulatory relationships and other areas, based on a compromise agreement between White House officials, leaders of the film, cable broadcast industries and Dean Burch, the chairman of the FCC. Effective March 31, 1972.

feeder

A comparatively short run of cable which may parallel the main trunk cable either forward, by doubling back from a junction, or branching off to serve a local area. Subscriber taps are put only on the short feeders to avoid the cumulative effect of these discontinuities on the trunk.

film chain

The equipment used to show film on television. Consists of a film projector, a slide projector, a multiplexer, and a television film camera.

Fortnightly case

United Artists vs Fortnightly Corporation (June 1968). Fortnightly Corporation was a CATV firm with systems in West Virginia. United Artists charged that the systems were rebroadcasting programs on which United Artists owned copyrights and that this was an infringement of copyright law. This became a test case in the Supreme Court when

Fortnightly appealed lower court decisions in favor of United Artists. The Supreme Court found that CATV systems were not liable for payment of copyright royalties since "a CATV system no more than enhances the viewer's capacity to receive the broadcaster's signals" and "has little in common with the function of broadcasters" since "CATV operators, like viewers and unlike broadcasters, do not perform the programs they receive and carry."

frame grabber

A common term for the electronic device at the subscriber's terminal used for storing single television frames (e.g. a silicon storage tube or a modified video tape recorder) for display. Also known as a frame snatcher. See also single frame capture and time-sharing (2).

franchise

A commonly used term for an agreement between a cable operator and a local government setting out the specific rights and responsibilities of each for the construction and operation of a cable facility in a specific political subdivision. In granting a franchise to the cable operator, the community grants more than the right to do business. It grants the right to use public right of way and into private property. According to FCC regulations, a public proceeding must accompany the franchise grant; and the franchise period should not exceed 15 years; the system must extend service to all areas of the franchise community where practicable; the system must begin construction within one year after the certificate of compliance is issued; franchise fees to the municipality (3% suggested) must be reasonable.

frequency bandwidth

The number of hertz (cycles per second) in the band; based upon the information transmitted and method of transmission.

full network station

A commercial television broadcast station that generally carries in weekly prime time hours 85% of the hours of programming offered by one of the three major television networks with which it has a primary affiliation.

government and educational channels

The FCC requires cable systems in the top 100 markets to set aside one channel for education use and one channel for state and local government use on a developmental basis. Upon completion of the basic trunk line, for the first five years these two channels will be made available free. After the developmental phase the FCC will determine whether to expand or curtail the free use of channels for such purposes. Only use of cable channel is free; production costs may be charged to users.

grandfathering

A method of protecting existing institutions from subsequent changes in regulations. Cable systems already in operation on the effective date of new rules are permitted to continue operation without regard to new technical standards or signal carriage requirements since it

would be unfair to make them comply with a law that was written after they were built. Cable systems grandfathered by the FCC Third Report and Order (all systems in operation or authorized to carry signals before March 31, 1972) are required to comply with the new regulations by March 31, 1977, or on renewal of their franchise, whichever comes first.

graphics
All two-dimensional visuals especially prepared for display on television, i.e. maps, charts, special illustrations, title cards.

guerilla television
Alternate video movement consisting of groups usually using portable 1/2 inch video tape systems to create an alternate information network (in contrast to the Establishment centralized networks to which they have been denied access.) Many of the alternate video groups cablecast their tapes over the public access channels.

hard copy
A permanent copy, usually printed on paper, of information converted from electronic signals carried on the cable to the subscriber's terminal. See also soft copy.

hardware
Actual physical equipment, like cameras, recorders, antenna, and so on, as distinguished from materials and programming. See also software.

head end
The electronic control center, located at the start of a cable system (usually near or at the antenna site), where incoming television signals are amplified, filtered and converted, if necessary, to cable system channels.

hertz
The name of the unit used to describe the frequency of electrical signals, or the bandwidth required by such signals. One hertz equals one cycle per second; one megahertz equals one million cycles per second of electrical signal.

hub-network switched system
A type of system requiring that each subscriber terminal be connected to a switching center located nearby. All programs would have the same carrier frequency. A single channel converter at each subscriber terminal would provide usable signal for a standard television set. Channel selection would be by a telephone dial or pushbutton arrangement working back through the drop cable to the local switching center. Thus, only the channel dialed would be connected at that switching center to a particular drop cable. The problem of getting multiple programs on the same channel frequency to each local switching center requires a separate cable for each channel from the head end. This results in a hub-structured network (sometimes described as star-shaped), structurally similar to telephone networks rather

than the conventional tree-structured cable network. Also known as a dedicated drop, switched, discade, or rediffusion system.

independent station
A commercial television broadcast station that generally carries in prime time not more than 10 hours of programming per week offered by the three major networks.

instructional television (ITV)
A television system used primarily for formal instruction.

instructional television fixed service (ITFS)
A television system operating at the 2,500 megahertz frequency set aside by the FCC for instructional television utilization. Special convertors are needed to receive the signal, and there is no two-way capacity.

interactive mode
A system that allows two-way communications, with each part of the system affecting the others. See also two-way capability.

leapfrogging
A practice by which a local cable operator imports signals from more distant stations by leaping over, or bypassing signals from closer stations. FCC regulations require systems importing distant independent signals from the top 25 markets to choose from one or both of the two closest such markets. Systems carrying a third independent signal are required to pick up a UHF station within 200 miles or, if such a station is not available, a VHF from the area. Where network affiliates are concerned, a system must afford priority of carriage to the closest one or, at the system's option, to the closest one within the state.

leased channels
According to FCC regulations, after cable systems in the top 100 markets have satisfied the priority of providing one free public access channel as well as the free channels for education and government they may make available for leased uses, the remainder of non-broadcast use channels. If the public access, educational, and governmental channels are not being used, these channels may also be used for leased operation.

live
The direct transmission of a signal at the time of its origin. For example, the transmission of a studio program as it originates, rather than recorded and later transmitted.

local distribution service (LDS)
Short microwave relay systems that extend cable services up to 20 miles (the present cable system limit is 10 miles) to serve smaller communities or population clusters around a cable service area.

local origination
Programming produced by the local cable operator. The program content might be on a film or videotape produced elsewhere and sold or leased to a cable operator, or it might indeed be programs produced locally.

According to FCC regulations, all systems with 3,500 or more subscribers are required to originate programming.

local origination center
A studio equipped with cameras, recorders, etc. used to produce community cablecasts within the cable system operator's franchise area. Often, but not necessarily, the studio is incorporated into the building including the head end.

local station
A television broadcast station which places a Grade B or better signal over the area in which the cable system operates.

major television market
The specified zone of a commercial television station licensed to a community listed as one of the 100 major television markets by the FCC in its Third Report and Order. This list is derived largely from the American Research Bureau's 1970 prime-time households ranking. 90% of the U. S. population lives in the major market areas. Also known as a larger television market or a top 100 market.

mandatory carriage
Signals that a cable system must carry in accordance with FCC regulations. See carriage rules.

microwave
(1) Extremely short waves on the order of 1,000 megahertz and higher.

(2) A method whereby television signals may be transported from one place to another. See also community antenna relay system (CARS) and local distribution service (LDS).

Midwest Video case
Midwest Video Corporation vs. FCC (June 1972).
Landmark decision by the Supreme Court in which the FCC was sustained in its power to compel compliance to its cable regulations. Midwest Video Corporation had challenged the FCC 1969 rule requiring CATV systems with more than 3,500 subscribers to originate local programming. The federal appeals court in St. Louis had voided the program origination requirement on the grounds that it was beyond FCC authority.

minimum channel capacity
The minimum number of channels a cable system must provide in accordance with FCC regulations. Systems in the top 100 markets must provide 20 channel capacity (actual or potential). Also for each broadcast signal carried, they must provide an additional channel suitable for non-broadcast signals (Class II and III cable television channels).

minimum service
A minimum number of signals that, taking television market size into account, a cable system may carry in accordance with FCC regulations. See also carriage rules.

minor markets
See smaller television markets.

mixer
The audio control console in a television production studio.

modulation
The process whereby the original information (e.g. the picture from a television studio) is translated into radio energy for transmission through space. The message, whether picture or any other kind of signal, consists essentially of an energy pattern that can be translated and transferred from one medium to another, each capable of duplicating the pattern of amplitude and frequency of which the signal consists.

monitor
A special type of television receiver. It is not tunable to channels, and is used for viewing video tapes, or to display the picture transmitted by a live television camera.

multiple address
See point-to-point service.

multiple cable system
A system using more than a single cable in its distribution system. For example, an existing 12 channel system can be enlarged to a 24 channel system by installing a completely duplicate plant, or dual cable system, which carries the same 12 channels, but with different program material. At the subscriber's set would be an effective cable selector switch so that he could choose channels on Cable A or Cable B. Care would be taken at all other points of the plant to insure that none of the Cable signals entered Cable B and visa versa. By extension, there could be Cable C, D, and so on.

multiple system operator (MSO)
A company that operates more than one cable television system.

multiplexing
More than one signal sent in the same channel without mixture. Division can be by frequency, time, or space.

narrowband
Frequency bandwidths below one megahertz. Narrowband communications systems are those that carry a narrow frequency range, such as telephone systems. See also broadband.

National Association of Broadcasters (NAB)
The National Trade Organization of the Broadcasting Industry (radio and television stations and networks). Founded in 1922, the NAB represents the industry before the FCC, Congress, and state regulatory bodies, and is responsible for instituting voluntary codes for radio and television which provide broadcasters with guideposts in programming and advertising practices. Offices: 1771 N Street, N. W., Washington, D. C. 20036.

National Cable Television Association (NCTA)
The national trade organization of the cable television industry. Chartered in 1952, it has an active membership of about 1073 CATV systems and 237 associate members (Manufacturers and suppliers of CATV equipment and others having an interest in the industry). NCTA represents the industry before the FCC, Congress, state regulatory bodies and on technical television industry committees. 42 states and regional CATV associations work closely with NCTA although they are not officially affiliated. Offices: 918 16th Street, N. W., Washington, D. C. 20006.

network
The interconnection of two or more stations. Network broadcasting involves the simultaneous transmission of identical programs by a group of connected stations.

network programming
The programming supplied by a national or regional television network, commercial or non-commercial.

noise
The accidental, unintended, and normally unwanted components of information received or transmitted as electrical impulses. These unintelligible disturbances, which arise from the random motion of electrons due to internal or external effects, degrade the transmission of the desired signal. For example, snow (dancing black or white spots on the picture tube having no recognizable shape or period) is a form of noise created by thermal effects in the input circuits of amplifiers placed along the cable.

non-broadcast channels
See access channels, Class II, and Class III cable television channels. See also minimum channel capacity.

nonduplication
Not carrying on the cable system from another television broadcast station the same program being broadcast by a local television station. FCC regulations prohibit a cable system from such simultaneous duplication.

non-switched system
A common cable system design in which messages are sent to and received by all points on the system simultaneously.

Office of Telecommunications Policy (OTP)
Established by order of the White House, the Office of Telecommunications Policy aids in formulating the Administration's long range cable television policy; in preparing legislation for submission to Congress; and acting as a go-between in disputes between interested parties such as the FCC, the NCTA, and the NAB. Director: Clay T. Whitehead, 1800 G Street, Washington, D. C. 20540.

off-network programming
Shows that were originally shown on a network, but are now offered for syndication.

open-circuit
A broadcast transmission method in which the receiving equipment and programs are available to the general public.

ordinance
An official resolution by a local political body regulating an activity within the legally defined political subdivision. An increasingly common practice is for a local political body to pass an enabling ordinance to serve as a guide for potential franchise applicants. Such an ordinance sets forth the ground rules which any franchise holder would have to work under (i.e. minimum standards of performance) and sets up a systematic procedure for applying for a franchise.

origination cablecasting
Programming (exclusive of broadcast signals) carried on a cable system over one or more channels and subject to the exclusive control of the cable operator.

pay cable
A leased channel concept that enables cable television subscribers to bring in closed circuit programs. Scrambled signals are sent over the cable that can be decoded only by the insertion of the proper key or card into a black box resting on the subscriber's TV set. The subscriber would be billed for such service in addition to the regular cable service charge. See also subscription television.

penetration
The percentage of people to whom cable is available who are actually subscribers.

Picturephone (trade name)
A system of transmitting video and audio information via a relatively narrow bandwidth involving digital encoding. Intended as a two-way system to enhance telephone intercommunication.

plant
The equipment in a cable system.

point-to-point service
A characteristic of a switched system which enables a sender to transmit a message (voice, video or data information) on the cable directly to the desired receiver (s) rather than to the general public. Point-to-point service can be in the form of either discrete address, from one point to another single point, or multiple address, from one single point to a number of selected points.

porta-pak
A relatively inexpensive, fully battery operated portable videotape recorder and camera. Commonly utilizes 1/2 inch videotape.

prime time
The point of peak viewership during the broadcast day. Generally considered the four hour period from 6 to 10 p.m. local time. According to FCC regulations, the five hour period from 6 to 11 p.m. local time.

production
The process of creating programs, including such phases as program planning, preparation, script writing, rehersal, and recording and/or live transmission.

program origination
Presenting a program on the cable system which has been originated by the system. In October 1969, the FCC reversing its past position, permitted all CATV systems to originate their own programming. The FCC also required systems with over 3,500 subscribers to originate programming by January 1, 1971, and allowed all systems to carry advertising.

public access channel
FCC rules require that cable systems in the top 100 markets provide one free, dedicated, non-commercial, public access channel available at all times on a non-discriminatory basis. The system operator is obliged to provide only use of the cable channel on a free basis; production costs (aside from studio presentations not exceeding five minutes) may be charged to users. Also known as a soap box channel, or as soap box TV.

PubliCable
A consortium of individuals representative of various educational public service, voluntary, and community groups concerned with cable communications, particularly its non-commercial possibilities. Established in 1971, the orginization seeks to identify issues in cable communication and to provide information and assistance to varied public interest groups. Director: Dr. Harold E. Wigren, c/o National Education Association, 1201 16th Street, Washington, D. C. 20036.

rediffusion system
See hub-network switched system and switched system.

redundant cable
The unused cable(s) in a multiple-cable system. These cables are capped off and reserved until the need for greater channel capacity or bi-directional capability arises.

resolution
The degree of detail in the image reproduced on the television screen.

retrofitting
The adding of additional cable to a distribution system after it has been installed. Often done to increase channel capacity, or to provide two-way capability.

satellite communications
A satellite placed at the right altitude where it can remain stationary with respect to the earth below it (synchronous altitude), can act as a communications station linking together a large portion of the earth's surface. See also Communications-satellite service and broadcasting-satellite service.

signal
The coherent, significant, and intentional components of information (such as sound or picture) received, or transmitted, as electrical impulses. Signals are noted in terms of strength (voltage) and frequency (cycles per second).

significantly viewed station
Viewed in other than cable television households as follows: for a network affiliate, a station is considered significantly viewed if it is watched by three percent of the audience and at least 25 percent watched it for at least five minutes during the week; for an independent station, the rules require it to be watched by two percent of the audience and by at least five percent of the audience for at least five minutes.

single frame capture (SFC)
A method of capturing and holding a single television frame of pictorial or alphanumeric information retrieved by random access (or nearly so) from a central computer facility with data and video files, for display at the subscriber's terminal. Services possible through SFC (augmented with a hard copy printer) include electronic news, transportation schedules, consumer information, job availabilities, directories, library catalogs, dictionaries and encyclopedias, advertising rates and credit ratings for businesses, recreational games and slide shows, and electronic mail.

siphoning
A process in which cable systems take advertising revenue and programming away from broadcasting.

smaller television market
The specified zone of a commercial television station licensed to a community that is not listed as one of the major (top 100) television markets. Also known as minor markets.

soap box TV
See public access channel.

soft copy
Information displayed on the picture tube (cathode ray tube) of a television receiver.

software
: The working materials from which a program is created that will be played out on a piece of hardware. The working materials may include scripts, written narrations, audio or visual aids, etc. especially created or assembled for the production, as well as the knowledge of how to use the equipment.

Southwestern case
: Southwestern Cable Company vs United States (June 1968). Set a major precedent in the regulatory history of cable television. In May 1967, the Ninth Circuit Court of Appeals decided that, in effect, the FCC had no jurisdiction over CATV. The FCC appealed the decision to the Supreme Court. The Supreme Court held "that the commission's authority over 'all interstate communication by wire or radio' permits the regulation of CATV systems."

structured dualism
: A term for the sharing of the regulation of cable systems by the FCC and state and local governments.

subscriber
: A person who pays an installation charge and monthly fee to a cable system operator for providing a connection to the cable system and for the programs and services carried on the cable.

subscription television (STV)
: Programming or special services supported by viewers, as contrasted with the existing advertiser financed methods. A scrambled signal is sent either over the air or on the cable to be decoded through a special device at the subscriber's terminal. Viewers would pay only for programming or services which they selected. Also known as private channel television, pay-TV, or premium television. See also pay-cable.

switched system
: A cable system designed with the capability to send messages (such as voice, video, or data information to or from any individual point, or designated address, on the system. A switched system may be circuited switched where a direct transmission path is established between sender and receiver or message switched where messages are relayed to the receiver by switching centers in a store and forward manner.

switcher
: In television production, a control that allows the selection of one image from any of several cameras operating simultaneously to be fed into the television display or recording system

sync
: Synchronization. The maintenance of one operation in step or phase with another, such as the simultaneous projection of picture and sound.

sync generator
Electronic equipment that supplies a common synchronized signal to a television production system using more than one camera insuring that they will all be in phase.

syndicated program
Any filmed or taped program sold, licensed, distributed or offered to television stations, in more than one market for non-network broadcasting.

TV Pix case
TV Pix, Inc. vs. Taylor (November, 1968).
An important case setting a precedent for the regulation of CATV as a public utility by a state. The U. S. District Court of Nevada upheld a state law allowing the Nevada Public Service Commission to regulate CATV. This decision was upheld by the Supreme Court in February 1970.

talent
The collective name for all persons, i.e. actors and performers--professional or non-professional, appearing in front of the television camera.

television translator station
A station that picks up television signals off the air and rebroadcasts them without altering any characteristic of the signal except its frequency or amplitude. They usually serve remote areas that cannot support their own stations. FCC regulations require cable systems to carry signals from all translator station in the cable community with 100 watts or higher power.

terminal
The equipment on the subscriber's end of the cable. This varies from a simple plate to which wires from the antenna outlet on the set are attached to sophisticated devices which might include converters, keyboards, videotape recorders, and mini-computers.

35-mile zone
The area within each market to which FCC regulations are applicable. The area is defined as a zone of 35 miles radius surrounding a specified reference point (often the main post office) in each designated community in the market. The purpose is to carve out the market's central city, suburbs, and nearby communities on which stations generally rely for their principal audience support. All cable systems must carry the signals of all stations licensed within 35 miles of the cable system's community.

time-sharing
(1) Time segments on a dedicated channel shared by various groups such as schools, libraries, police stations, rather than a separate channel designated for each particular use.
(2) Sharing of channel time by sending one transmission of a picture (a frame), capturing it on special terminal equipment (frame grabber) for local reproduction and viewing and releasing the remaining available 1799 frame transmission opportunities in that same minute to serve someone else.

top 100 markets
See major television market.

transmission
Sending signals from one point to another.

tree--network
The conventional cable distribution network that includes the cable and all the appurtenant devices necessary to carry the signals from the head end to each of the subscribers terminals. It is a tree network where the product from the root is carried through the trunk and then through the branches to the individual stems which feed each individual leaf.

trunk
The backbone or main line of the cable system. This main coaxial cable carries signals from the head end to the extremities of the area served with the minimum possible number of amplifiers (generally 3-4 to the mile) and no subscriber taps.

two-way capability
Bidirectional transmission. A cable system capable of carrying information both downstream from the head end to any point in the network and upstream from any point on the network back to the head end. All downstream communications are delivered simultaneously to all subscribers, including even messages addressed to specific subscribers which are, however, recognized and accepted only by the properly addressed subscriber terminal. Upstream communications must be limited to one at a time per channel to avoid chaos. This is done by time sharing in which each subscriber is alloted a time segment in which to transmit the information to the central collection point. A computer at the central point interrogates each subscriber terminal in turn by suitable address code. Upon receipt of the correct code, the addressed terminal transmits a stored message back to the collection point. The interrogation rate is fast enough to give the subscriber the impression of actually initiating the transmission of information. Under FCC regulations, all systems in the top 100 markets must have return capacity on "at least non-voice basis" by March 31, 1977.

UHF channels
The ultra high frequency part of the spectrum allocated for television broadcasting, comprising channels 14 through 83.

underground installation
A method of installing cable underground as opposed to aerial suspension on poles. Becoming increasingly popular since it improves the appearance of the community; removes dependence on telephone and power companies; provides protection against weather variations.

upstream
The direction in the cable system from the terminals to the head end.

VHF channels
The very high frequency portion of the spectrum allocated to television, comprising channels 2 through 13.

videotape

Thin acetate or mylar type, coated with magnetic material, used to record and store video and audio information. There are five standard widths: two inch, used by television studios in quadraplex machines; one inch, often used by institutions with closed-circuit systems; three quarter inch; half inch, used in many portable VTR systems; and quarter inch. Video tape is obtainable in two formats:
(1) Video cassette: the tape moves in a continous loop encased in a container.
(2) reel-to-reel: two reels move the tape from one reel to another. Usually connotes non-encased reels.

videotape recorder (VTR)

The videotape process works through a camera or other transmitter inputting a magnetic impulse onto a coated tape (which is much the same as audio tape). Because there is no chemical process involved, once the signal is recorded it is immediately ready for replay. Videotape is re-usable: it can be erased and re-recorded. Each reel or cassette is good for up to fifty different recordings with upwards of a thousand playbacks possible. The soundtrack is automatically synced to the image and has the same characteristics as regular audiotape recorders. Live feedback is available since a video camera attached to a VTR and feeding into a TV set will give a real-time image of whatever the camera is pointed at.

wired city

A concept in which a cable system would provide all of an urban area's telecommunication facilities. All television signals would be placed in two-way systems that would carry telephone and data traffic as well. Wired cities could be interconnected via satellite or microwave relay to produce a wired nation: internationally connected, a global village. See also broadband communications network.

zoom

The gradual changing of the focal length of a camera lens giving the effect of moving closer to or away from an object without moving the camera itself.